

**Appl. No.** : **Unknown**  
**Filed** : **Herewith**

## **AMENDMENTS TO THE CLAIMS**

### **IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

Claims 1-24 (Canceled).

25. (New) A method for determining a concentration of an analyte within a material sample having a peripheral region, said method comprising:

inducing at least said peripheral region of said material to transmit electromagnetic energy in a time-varying manner;

measuring, at at least one wavelength, said time-varying electromagnetic energy transmitted by said peripheral region;

determining a parameter of said time-varying electromagnetic energy;

computing, based on said parameter, an absorption value; and

determining said concentration of said analyte based at least in part on said absorption value.

26. (New) The method of Claim 25, wherein said parameter comprises a phase of said electromagnetic energy.

27. (New) The method of Claim 25, wherein said parameter comprises an intensity of said electromagnetic energy.

28. (New) The method of Claim 25, wherein said parameter comprises an amplitude of said electromagnetic energy.

29. (New) The method of Claim 25, wherein inducing at least said peripheral region of said material to transmit electromagnetic energy in a time-varying manner comprises inducing a periodically modulated thermal gradient in said material sample.

30. (New) The method of Claim 25, wherein said electromagnetic energy comprises infrared radiation.

31. (New) The method of Claim 25, wherein measuring comprises analyzing said material with an optical measurement system.

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32. (New) The method of Claim 31, wherein said optical measurement system comprises at least one infrared detector.

33. (New) The method of Claim 31, further comprising correcting said optical measurement system for temporal variations in performance.